



MI Flu Focus

Influenza Surveillance Updates
Bureaus of Epidemiology and Laboratories

Michigan Department
of Community Health



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Updates of Interest

- **International:** WHO is reporting 64 cases of MERS-CoV including 38 deaths.

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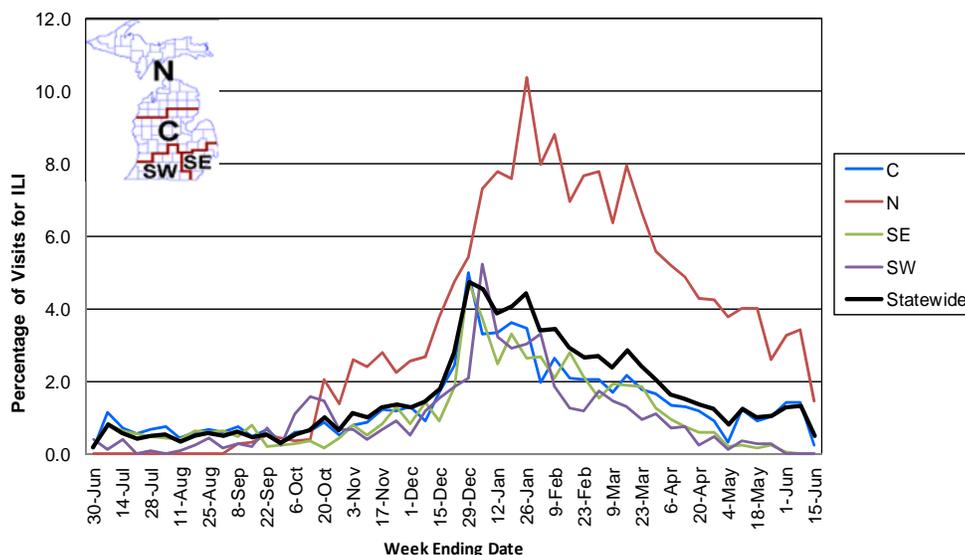
Influenza Surveillance Reports

Michigan Disease Surveillance System (as of June 20): MDSS influenza data for the week ending June 15, 2013 indicated that compared to levels from the previous week, individual reports remained the same, while aggregate reports decreased. Aggregate reports are lower than levels seen during the same time period last year, while individual reports are slightly lower.

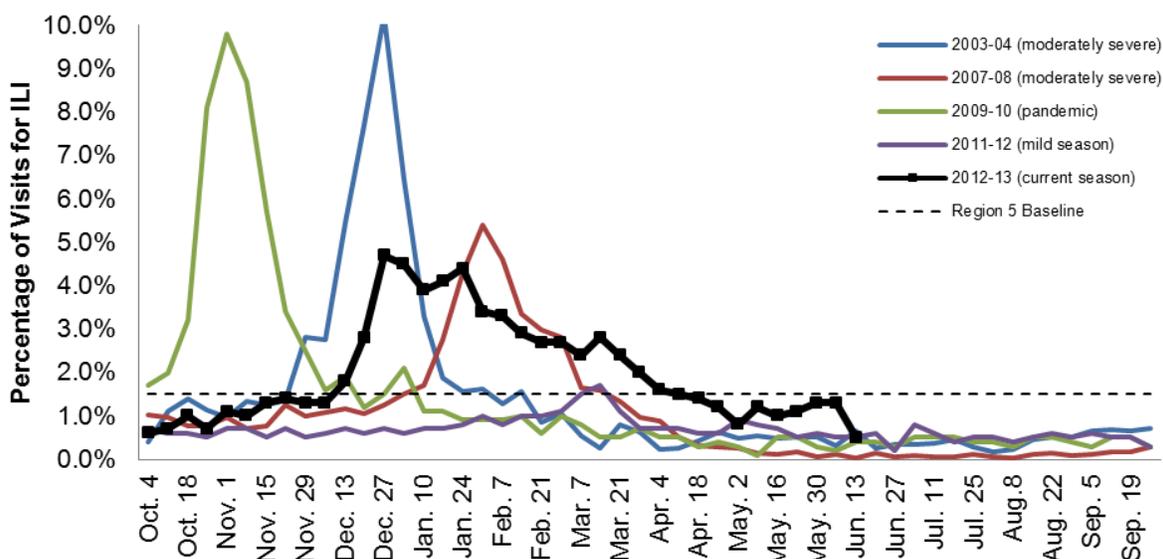
Emergency Department Surveillance (as of June 20): Compared to levels from the week prior, emergency department visits from both constitutional and respiratory complaints continue to remain steady. Levels of constitutional complaints are similar when compared to levels reported during the same time period last year while respiratory complaints are slightly higher compared to the same time period during the previous year. In the past week, there were 5 constitutional alerts in the SW(2), C(2), and N(1) Influenza Surveillance Regions and 3 respiratory alerts in the SE (1), SW (1), and C(1) Regions.

Sentinel Provider Surveillance (as of June 20): During the week ending June 15, 2013, the proportion of visits due to influenza-like illness (ILI) decreased to 0.5% overall; this is below the regional baseline (1.5%). A total of 24 patient visits due to ILI were reported out of 4,831 office visits. Data were provided by 18 sentinel sites from the following regions: Central (8), North (3), Southeast (5) and Southwest (2). ILI activity decreased in two regions: C (0.3%) and N (1.5%). ILI activity remained the same in two regions: SE (0.0%) and SW (0.0%). Please Note: these rates may change as additional reports are received.

Percentage of Visits for Influenza-like Illness (ILI)
Reported by Sentinel Providers, Statewide and Regions
2011-2012 and 2012-13 Flu Seasons



Percentage of Visits for Influenza-like Illness (ILI) Reported by the US Outpatient Influenza-like Illness Surveillance Network (ILINet): Michigan, Select Seasons



As part of pandemic influenza surveillance, CDC and MDCH highly encourage year-round participation from all sentinel providers. New practices are encouraged to join the sentinel surveillance program today! Contact Stefanie DeVita at 517-335-3385 or DeVitaS1@michigan.gov for more information.

Hospital Surveillance (as of May 18): The CDC Influenza Hospitalization Surveillance Project provides population-based rates of severe influenza illness through active surveillance and chart review of lab-confirmed cases, starting on October 1, 2012, in the Clinton, Eaton, Genesee, and Ingham counties. Reporting for the season has concluded. There were 258 influenza hospitalizations (168 adult, 90 pediatric) within the catchment area. The incidence rate for adults was 24.7 hospitalizations per 100,000 population and for children was 43.0 hospitalizations per 100,000.

The MDCH Influenza Sentinel Hospital Network monitors influenza hospitalizations reported voluntarily by hospitals statewide. Reporting for the 2012-13 influenza season has concluded. 437 hospitalizations (278SE, 21SW, 64C, 74N) were reported by 12 hospitals during the 2012-13 season.

Laboratory Surveillance (as of June 15): During June 9-15, no positive influenza results were reported by MDCH. For the 2012-13 season (starting Sept. 30, 2012), MDCH has identified 681 influenza results:

- Influenza A(H3): 500 (124SE, 169SW, 169C, 38N)
- Influenza A(H1N1)pdm09: 36 (20SE, 4SW, 9C, 3N)
- Influenza B: 153 (30SE, 31SW, 74C, 18N)
- Parainfluenza: 8 (3SW, 1C, 4N)
- RSV: 1 (1N)
- hMPV: 2 (2SW)

8 sentinel labs reported (SE (2), SW(2), C(4), N (0)) for the week ending June 15, 2013. No labs reported influenza A activity or influenza B activity. One lab (SW) reported sporadic Parainfluenza activity. No labs reported RSV activity or hMPV activity. All sites are at low or very low testing volumes.

Michigan Influenza Antigenic Characterization (as of June 20): For the 2012-13 season, 113 Michigan influenza B specimens have been characterized at MDCH BOL. 94 specimens are B/Wisconsin/01/2010-like, matching the B component of the 2012-13 influenza vaccine. 19 influenza B specimens were characterized as B/Brisbane/60/2008-like, which is not included in the 2012-13 vaccine.

Michigan Influenza Antiviral Resistance Data (as of June 20): For the 2012-13 season, 32 influenza A/H3 specimens and 25 influenza A(H1N1)pdm09 specimens have been tested at the MDCH BOL for antiviral resistance. None of the influenza isolates tested have been resistant.

CDC has made recommendations regarding the use of antivirals for treatment and prophylaxis of influenza, which are available at <http://www.cdc.gov/flu/professionals/antivirals/index.htm>.

Influenza-associated Pediatric Mortality (as of June 20): 7 pediatric influenza-associated influenza mortalities (3 A/H3, 4B) have been reported for the 2012-13 season.

CDC requires reporting of flu-associated pediatric deaths (<18 yrs), including pediatric deaths due to an influenza-like illness with lab confirmation of influenza or any unexplained pediatric death with evidence of an infectious process. Contact MDCH immediately for proper specimen collection. The MDCH protocol is at www.michigan.gov/documents/mdch/ME_pediatric_influenza_guidance_v2_214270_7.pdf.

Influenza Congregate Settings Outbreaks (as of June 20): 112 respiratory outbreaks (22SE, 30SW, 41C, 19N) have been reported to MDCH during the 2012-13 season; testing results are listed below.

- Influenza A/H3: 16 (7SW, 9C)
- Influenza A: 55 (10SE, 13SW, 20C, 12N)
- Influenza B: 8 (1SE, 3SW, 2C, 2N)
- Influenza A and B: 2 (1SE, 1SW)
- Influenza A/H3 and B: 1 (1C)
- Influenza positive: 4 (1SE, 1SW, 2C)
- Influenza and RSV positive: 1 (1C)
- Influenza B and RSV positive: 1 (1SE)
- hMPV: 1 (1SW)
- Negative/no testing: 23 (8SE, 4SW, 6C, 5N)

National (CDC): Past weekly reports and updated data during the summer months are available online at: <http://www.cdc.gov/flu/weekly/fluactivitysurv.htm>.

International (WHO [edited], June 7): Influenza activity in the northern hemisphere temperate zones has decreased to low levels. The influenza activity in tropical areas has been varying- but relatively stable since the last update, Madagascar reported high influenza activity. Influenza activity in the southern hemisphere has started to increase in South America and in South Africa but remained low in Oceania. For information on H7N9 in China please see link below. A summary review of the Northern Hemisphere was published in the World Epidemiological Report on 31 May 2013.

The entire WHO report is available online at www.who.int/influenza/surveillance_monitoring/updates/latest_update_GIP_surveillance/en/index.html

Weekly reporting to the CDC has ended for the 2012-2013 influenza season.

For additional flu vaccination and education information, the MDCH *FluBytes* newsletter is available at http://www.michigan.gov/mdch/0,1607,7-132-2940_2955_22779_40563-125027--,00.html.

Novel Influenza Activity and Other News

WHO Pandemic Phase: Post-pandemic – Influenza disease activity has returned to levels normally seen for seasonal influenza. It is expected that the pandemic virus will behave as a seasonal influenza A virus. It is important to maintain surveillance and update pandemic preparedness/response plans accordingly.

International, Human (WHO, June 17): The Ministry of Health in Saudi Arabia has announced an additional three laboratory-confirmed cases with Middle East respiratory syndrome coronavirus (MERS-CoV).

The first patient is a 42-year-old man with an underlying medical condition from the Eastern region, the second patient is a 63-year-old woman with underlying medical conditions from Riyadh region and the third patient is a two-year-old child with an underlying medical condition from Jeddah.

Additionally, four previously laboratory-confirmed cases have died.

Globally, from September 2012 to date, WHO has been informed of a total of 64 laboratory-confirmed cases of infection with MERS-CoV, including 38 deaths.

WHO has received reports of laboratory-confirmed cases originating in the following countries in the Middle East to date: Jordan, Qatar, Saudi Arabia, and the United Arab Emirates (UAE). France, Germany, Italy, Tunisia and the United Kingdom also reported laboratory-confirmed cases; they were either transferred there for care of the disease or returned from the Middle East and subsequently became ill. In France, Italy, Tunisia and the United Kingdom, there has been limited local transmission among patients

who had not been to the Middle East but had been in close contact with the laboratory-confirmed or probable cases.

Based on the current situation and available information, WHO encourages all Member States to continue their surveillance for severe acute respiratory infections (SARI) and to carefully review any unusual patterns.

Health care providers are advised to maintain vigilance. Recent travellers returning from the Middle East who develop SARI should be tested for MERS-CoV as advised in the current surveillance recommendations. Specimens from patients' lower respiratory tracts should be obtained for diagnosis where possible. Clinicians are reminded that MERS-CoV infection should be considered even with atypical signs and symptoms, such as diarrhoea, in patients who are immunocompromised.

Health care facilities are reminded of the importance of systematic implementation of infection prevention and control (IPC). Health care facilities that provide care for patients suspected or confirmed with MERS-CoV infection should take appropriate measures to decrease the risk of transmission of the virus to other patients, health care workers and visitors.

All Member States are reminded to promptly assess and notify WHO of any new case of infection with MERS-CoV, along with information about potential exposures that may have resulted in infection and a description of the clinical course. Investigation into the source of exposure should promptly be initiated to identify the mode of exposure, so that further transmission of the virus can be prevented.

WHO does not advise special screening at points of entry with regard to this event nor does it currently recommend the application of any travel or trade restrictions.

WHO continues to closely monitor the situation.

The update is available online at http://www.who.int/csr/don/2013_06_17/en/index.html

June 15 WHO Update: http://www.who.int/csr/don/2013_06_15/en/index.html

June 14 WHO Update: http://www.who.int/csr/don/2013_06_14/en/index.html

International, Human (New England Journal of Medicine [abstract], June 19):

Background: In September 2012, the World Health Organization reported the first cases of pneumonia caused by the novel Middle East respiratory syndrome coronavirus (MERS-CoV). We describe a cluster of health care-acquired MERS-CoV infections

Methods: Medical records were reviewed for clinical and demographic information and determination of potential contacts and exposures. Case patients and contacts were interviewed. The incubation period and serial interval (the time between the successive onset of symptoms in a chain of transmission) were estimated. Viral RNA was sequenced.

Results: Between April 1 and May 23, 2013, a total of 23 cases of MERS-CoV infection were reported in the eastern province of Saudi Arabia. Symptoms included fever in 20 patients (87%), cough in 20 (87%), shortness of breath in 11 (48%), and gastrointestinal symptoms in 8 (35%); 20 patients (87%) presented with abnormal chest radiographs. As of June 12, a total of 15 patients (65%) had died, 6 (26%) had recovered, and 2 (9%) remained hospitalized. The median incubation period was 5.2 days (95% confidence interval [CI], 1.9 to 14.7), and the serial interval was 7.6 days (95% CI, 2.5 to 23.1). A total of 21 of the 23 cases were acquired by person-to-person transmission in hemodialysis units, intensive care units, or in-patient units in three different health care facilities. Sequencing data from four isolates revealed a single monophyletic clade. Among 217 household contacts and more than 200 health care worker contacts whom we identified, MERS-CoV infection developed in 5 family members (3 with laboratory-confirmed cases) and in 2 health care workers (both with laboratory-confirmed cases).

Conclusions: Person-to-person transmission of MERS-CoV can occur in health care settings and may be associated with considerable morbidity. Surveillance and infection-control measures are critical to a global public health response

The full article is available online at

http://www.nejm.org/doi/full/10.1056/NEJMoa1306742?query=featured_home

International, Human (WHO EMRO [edited], June 18): Over 80 health officials from countries in the Eastern Mediterranean Region, as well as from France, Germany, Ireland, Italy, Russian Federation and the United Kingdom (UK) will meet in the WHO Regional Office in Cairo from 20 to 22 June to discuss and agree on a collective response plan to counter the threats of novel coronavirus infection to global health.

The full announcement is available online at <http://www.emro.who.int/surveillance-forecasting-response/surveillance-events/mers-cov-meeting-june-2013.html>

For questions or to be added to the distribution list, please contact Bethany Reimink at ReiminkB@michigan.gov

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Table. H5N1 Influenza in Humans – As of June 4, 2013. http://www.who.int/influenza/human_animal_interface/EN_GIP_20130604CumulativeNumberH5N1cases.pdf. Downloaded 06/07/2013. Cumulative lab-confirmed cases reported to WHO. Total cases include deaths.

Country	2003-2009		2010		2011		2012		2013		Total	
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths
Azerbaijan	8	5	0	0	0	0	0	0	0	0	8	5
Bangladesh	1	0	0	0	2	0	3	0	1	1	7	1
Cambodia	9	7	1	1	8	8	3	3	11	8	32	27
China	38	25	2	1	1	1	2	1	2	2	45	30
Djibouti	1	0	0	0	0	0	0	0	0	0	1	0
Egypt	90	27	29	13	39	15	11	5	4	3	173	63
Indonesia	162	134	9	7	12	10	9	9	0	0	192	160
Iraq	3	2	0	0	0	0	0	0	0	0	3	2
Lao PDR	2	2	0	0	0	0	0	0	0	0	2	2
Myanmar	1	0	0	0	0	0	0	0	0	0	1	0
Nigeria	1	1	0	0	0	0	0	0	0	0	1	1
Pakistan	3	1	0	0	0	0	0	0	0	0	3	1
Thailand	25	17	0	0	0	0	0	0	0	0	25	17
Turkey	12	4	0	0	0	0	0	0	0	0	12	4
Vietnam	112	57	7	2	0	0	4	2	2	1	125	62
Total	468	282	48	24	62	34	32	20	20	15	630	375